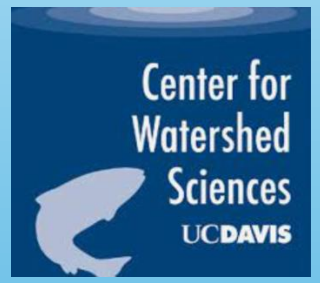
Scott River Watershed Fisheries Monitoring

Scott River Watershed Council

Erich Yokel
Betsy Stapleton, Charnna Gilmore, Harrison Morrow and Colton Dixon

Scott Watershed Informational Forum (SWIF)
February 20, 2025

The SRWC Gratefully acknowledges our Funders and Collaborators



Scott Valley Landowners

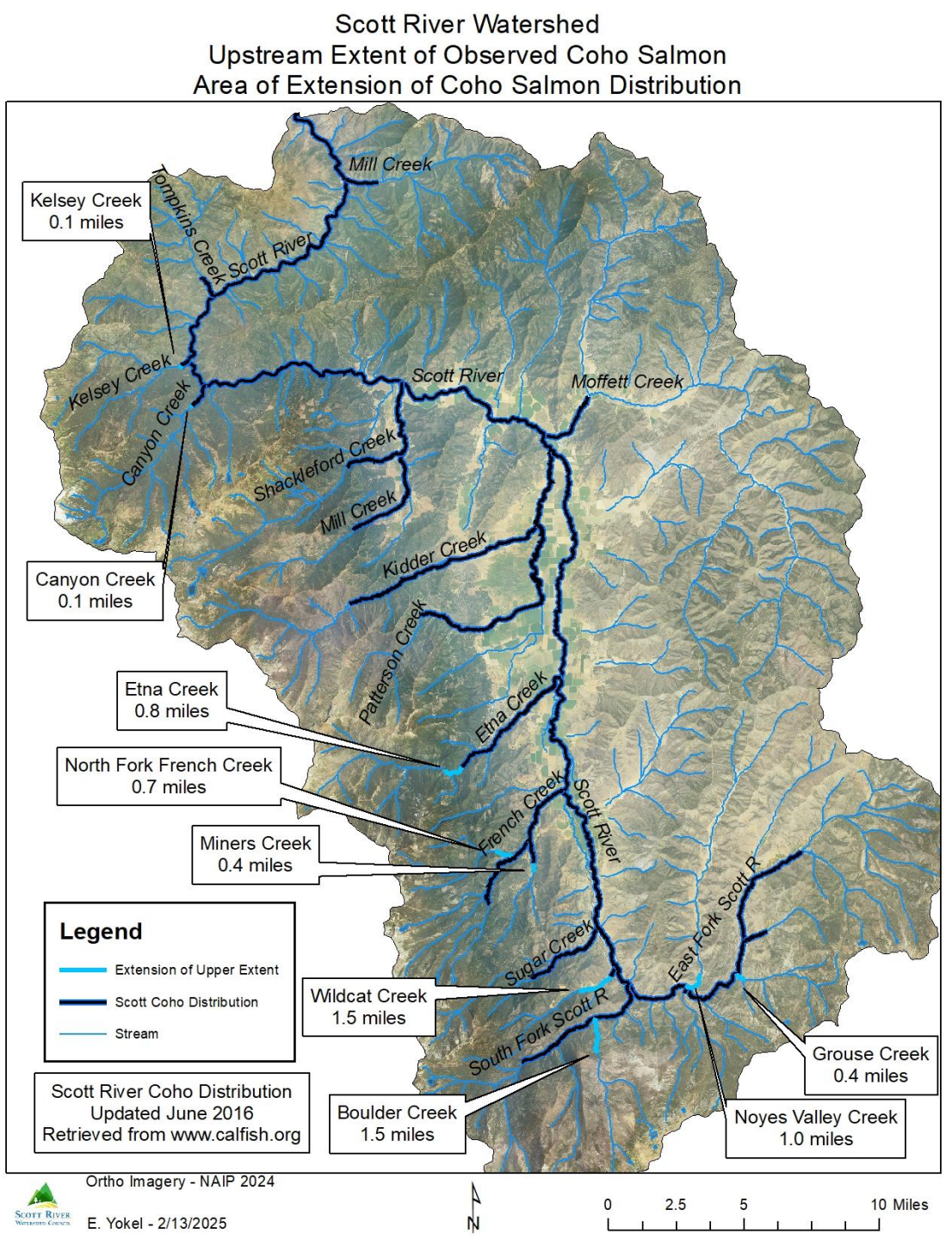
Scott River Fishery Monitoring

Understand the distribution and habitat utilization of all life stages of coho salmon

Focus on adult spawners and juvenile rearing in summer and winter

Utilize fisheries monitoring to identify population trends, advise management decisions and direct restoration and protection

Monitor in restoration design project areas, implemented projects and controls.



Adult coho spawning ground surveys
November to January

Direct observation surveys
Summer base flow period

Juvenile fish sampling
Summer and early fall baseflow period
Late fall and winter runoff period

Adult coho salmon spawning ground surveys

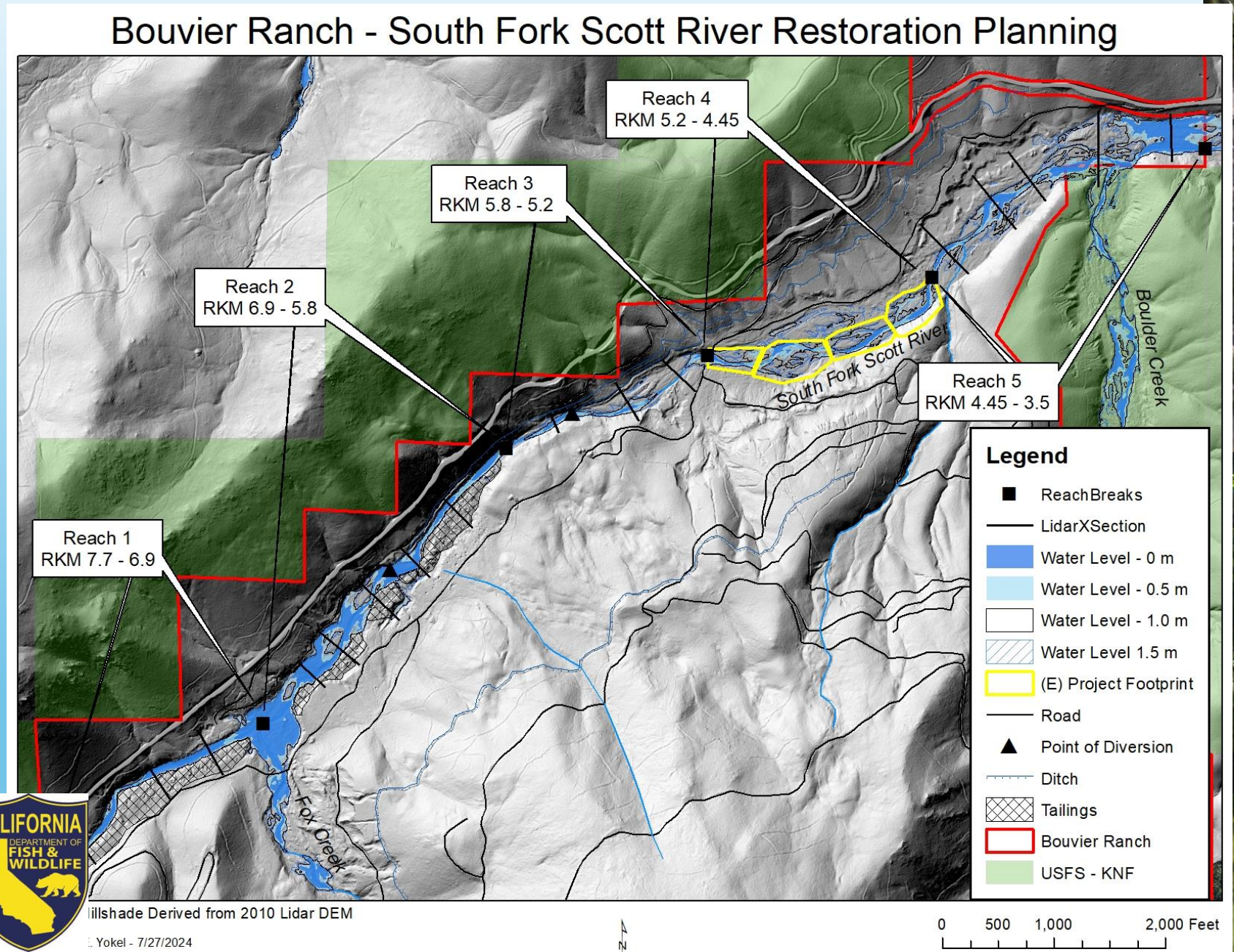
Cooperative coho salmon spawning ground surveys have been performed since 2001

CDFW Counting Facility established in 2007

Initial surveys identified coho in streams that were assumed to not support coho

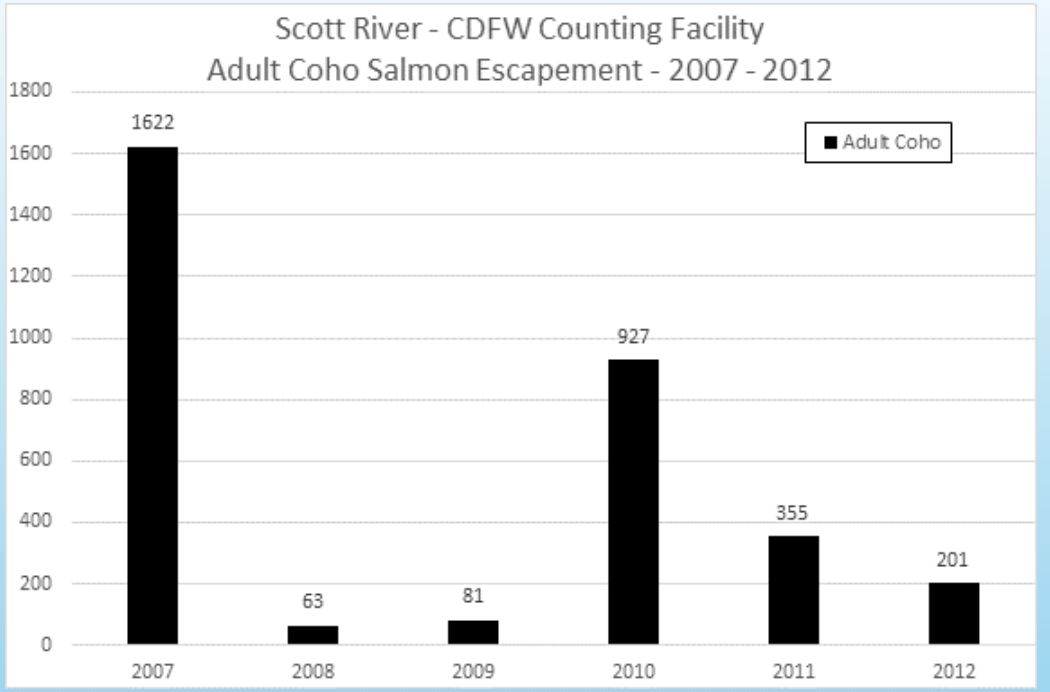
Survey observations have directed
protection
enhancement
and restoration efforts.

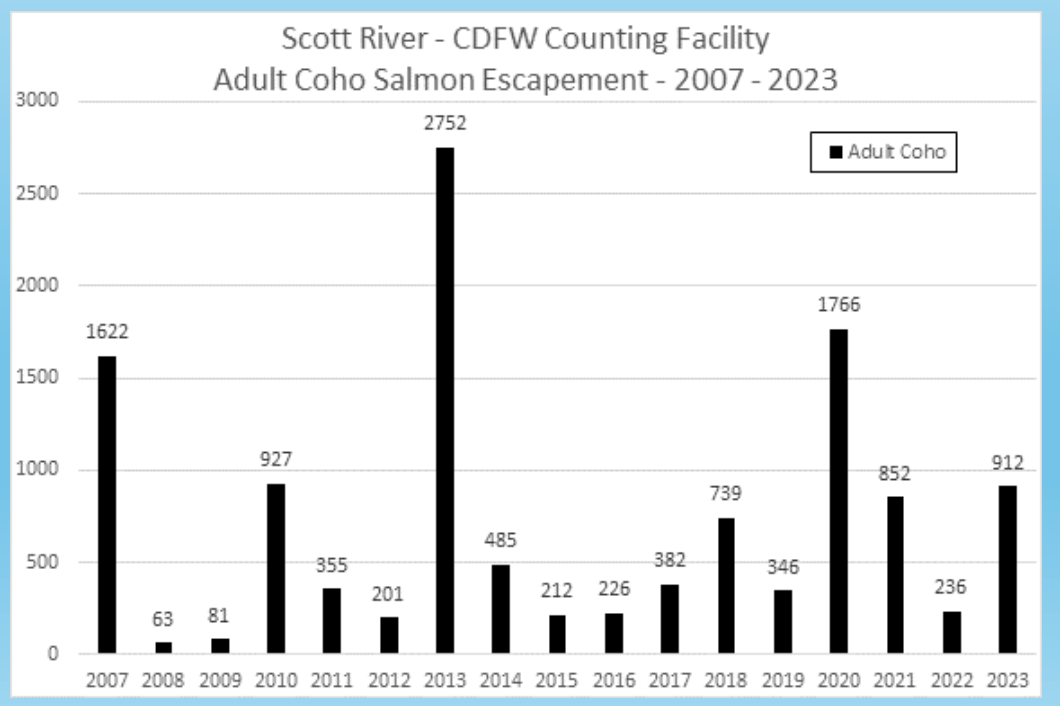
South Fork Scott River Restoration Planning



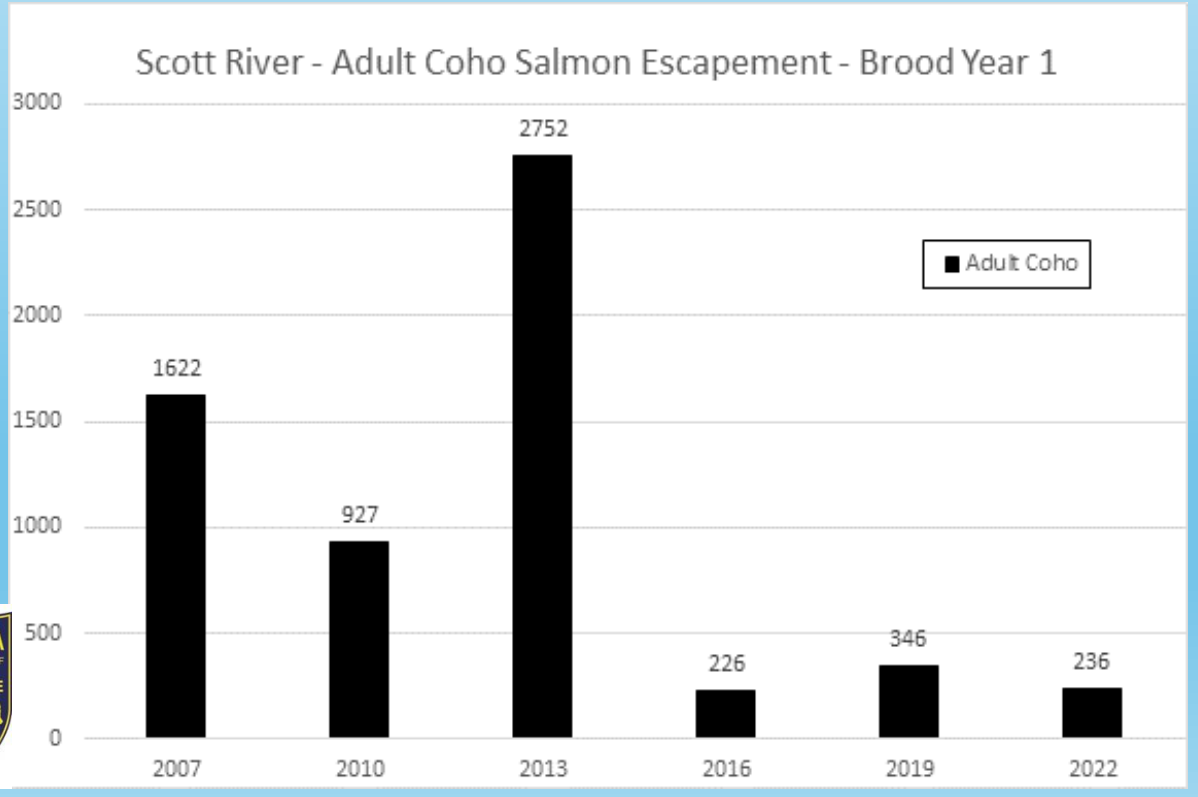
In the early 2000's there was one relatively strong brood year of coho salmon and two very week broods of coho salmon.

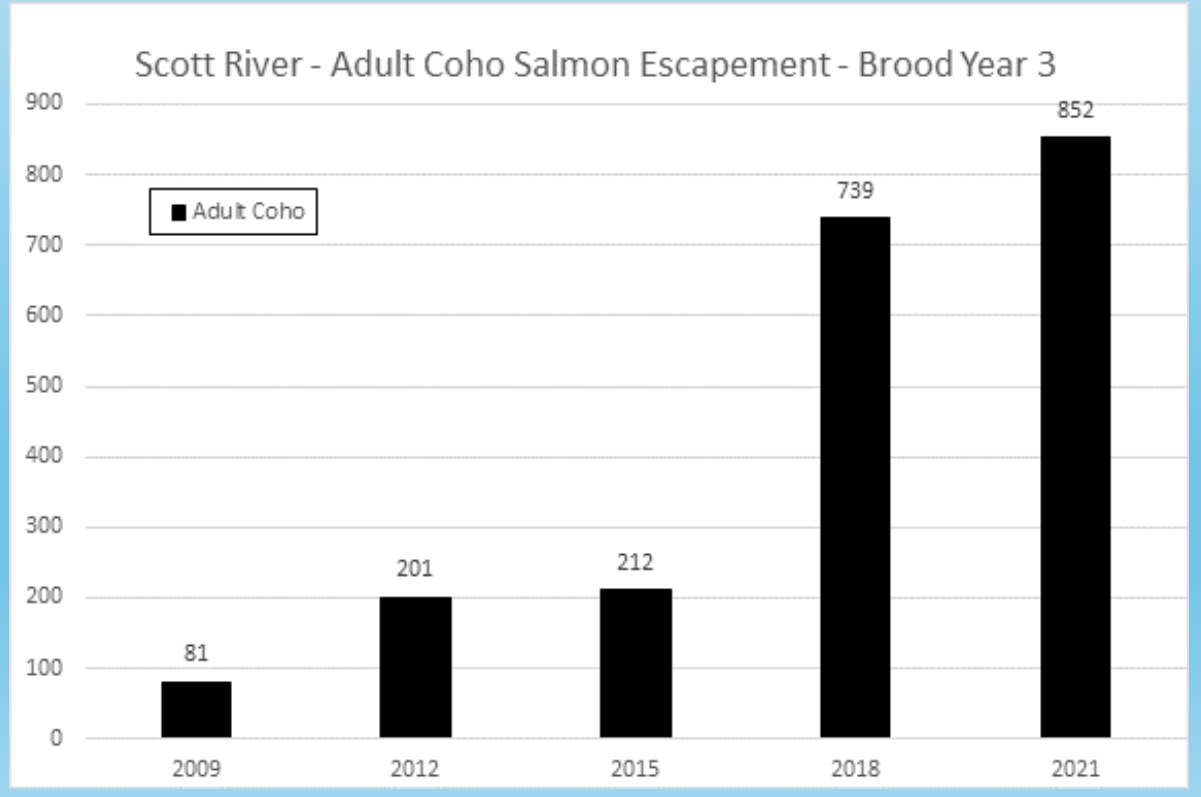
The CDFW weir and Spawning Ground Surveys document trends and changes in the population and distribution of adults coho salmon in the tributaries of the Scott River of the 25 years of surveys.





The Drought of 2013 – 2014 led to the demise of the strong brood year while the two weak brood years have shown significant increases over the last five (5) generations

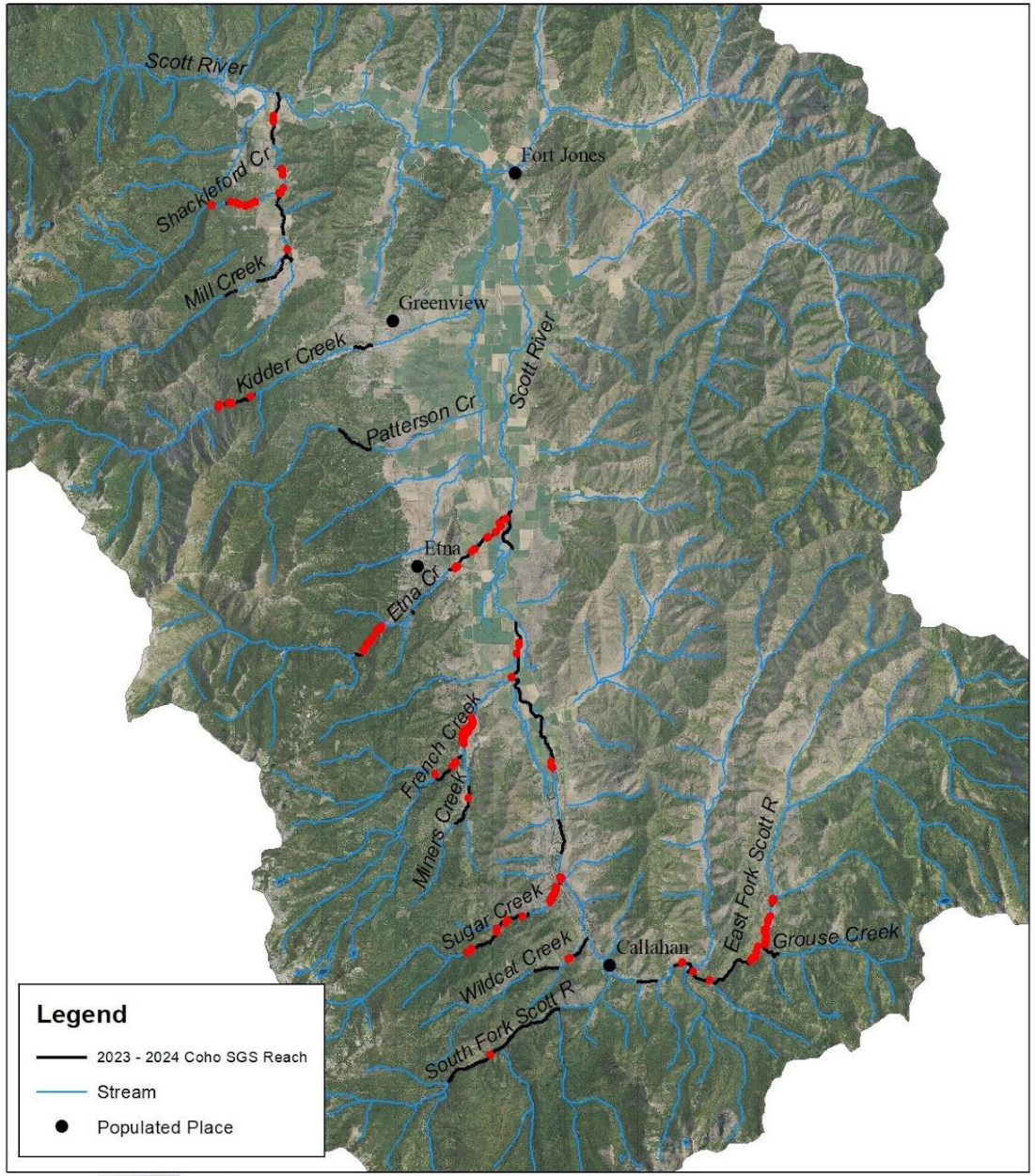




2023 – 2024 Coho Spawning Ground Surveys

Good water year with early precipitation, runoff and access. Large Spatial Coverage. Good detection rate. High density of spawning documented in multiple reaches.

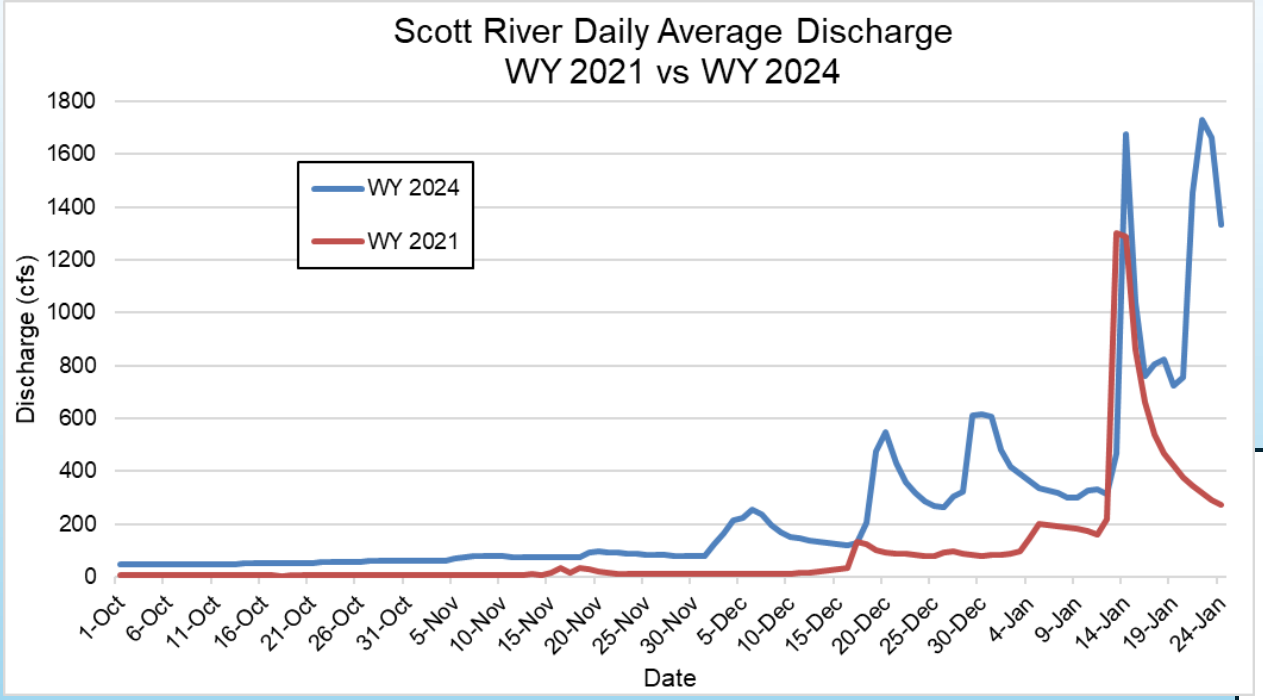
2023 - 2024 Scott River Coho Spawning Ground Surveys
Observed Coho Salmon Redds



E. Yokel - 3/5/2024

N

0 2 4 8 Miles



26% of the coho spawning occurred in the mainstem Scott River during WY2021
9% occurred in the mainstem in WY2024

Timing of early fall precipitation and runoff effects connectivity and migration timing with drought years having a significant effect on documented distribution.

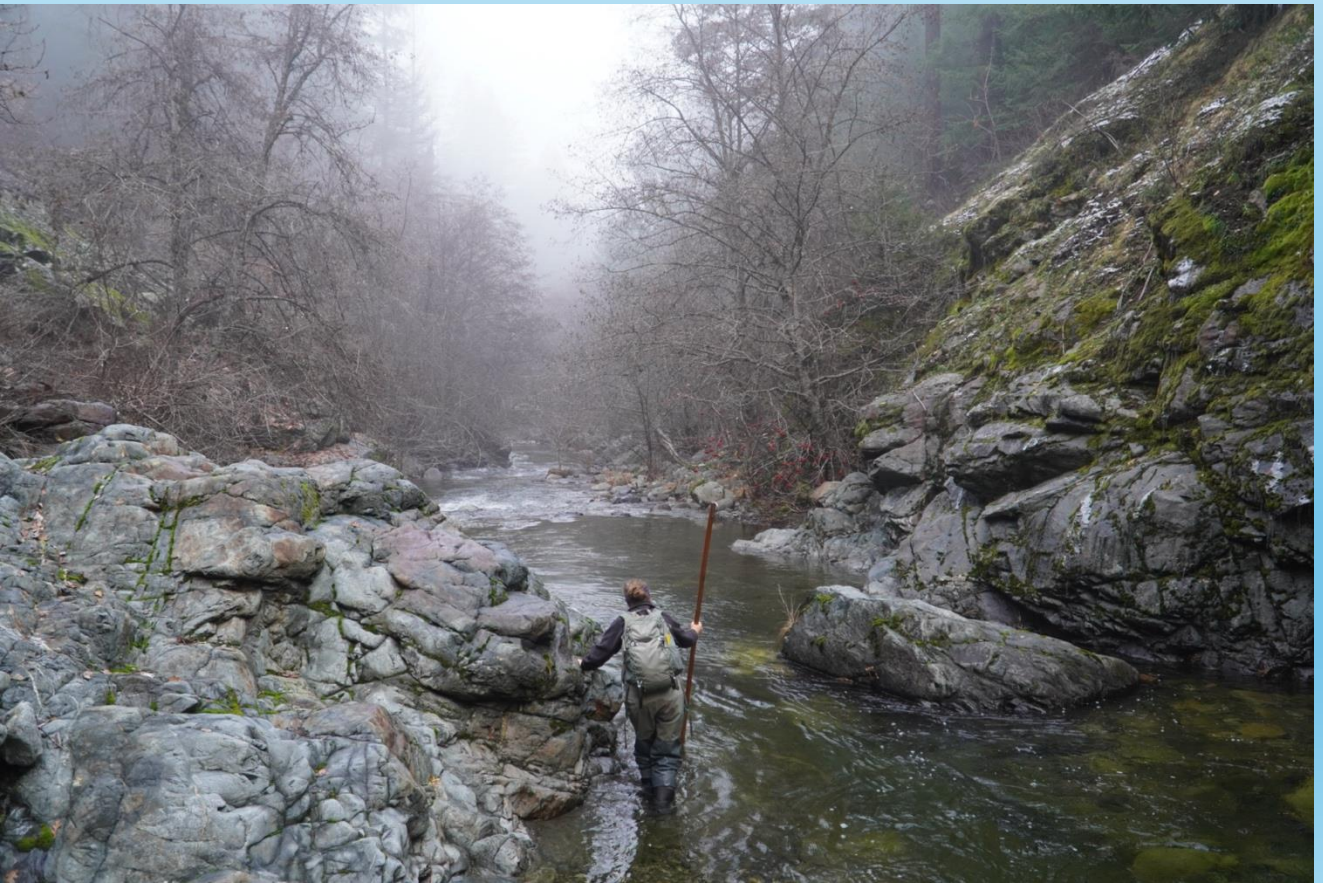
Stream	2020-21 Redds (1,766 Spawners)		2023-24 Redds (912 Spawners**)	
Scott River Mainstem	**Number**	**Percentage**	**Number**	**Percentage**
Reach 16 Partial (RKM 87.4-87.7)	ND	NA	15	6.0%
Reach 16 Partial (RKM 80.8-82.5)	30	10.6%	3	1.2%
Reach 15 (RKM 75.1-80.8)	33	11.7%	4	1.6%
Reach 13 Partial (RKM 68.6-70.6)	1	0.4%	0	0.0%
Reach 9	5	1.7%	ND	NA
Scott River Mainstem Total	**72**	**26.0%**	**22**	**8.8%**
Tributaries (North to South)				
Mill Creek	55	20.0%	2	0.8%
Shackleford Creek	67	24.0%	20	8.0%
Kidder Creek	ND	NA	5	2.0%
Etna Creek	ND	NA	28	11.2%
Miners Creek**	30	10.0%	1	0.4%
French Creek	56	20.0%	88	35.1%
Sugar Creek	0	0.0%	43	17.1%
Wildcat Creek	ND	NA	2	0.8%
East Fork	ND	NA	39	15.5%
South Fork	0	0.0%	1	0.4%
Tributary Total	**208**	**74.0%**	**229**	**91.2%**

**Coho salmon abundance data from the CDFW SRFCF in 2023-2024 is preliminary.

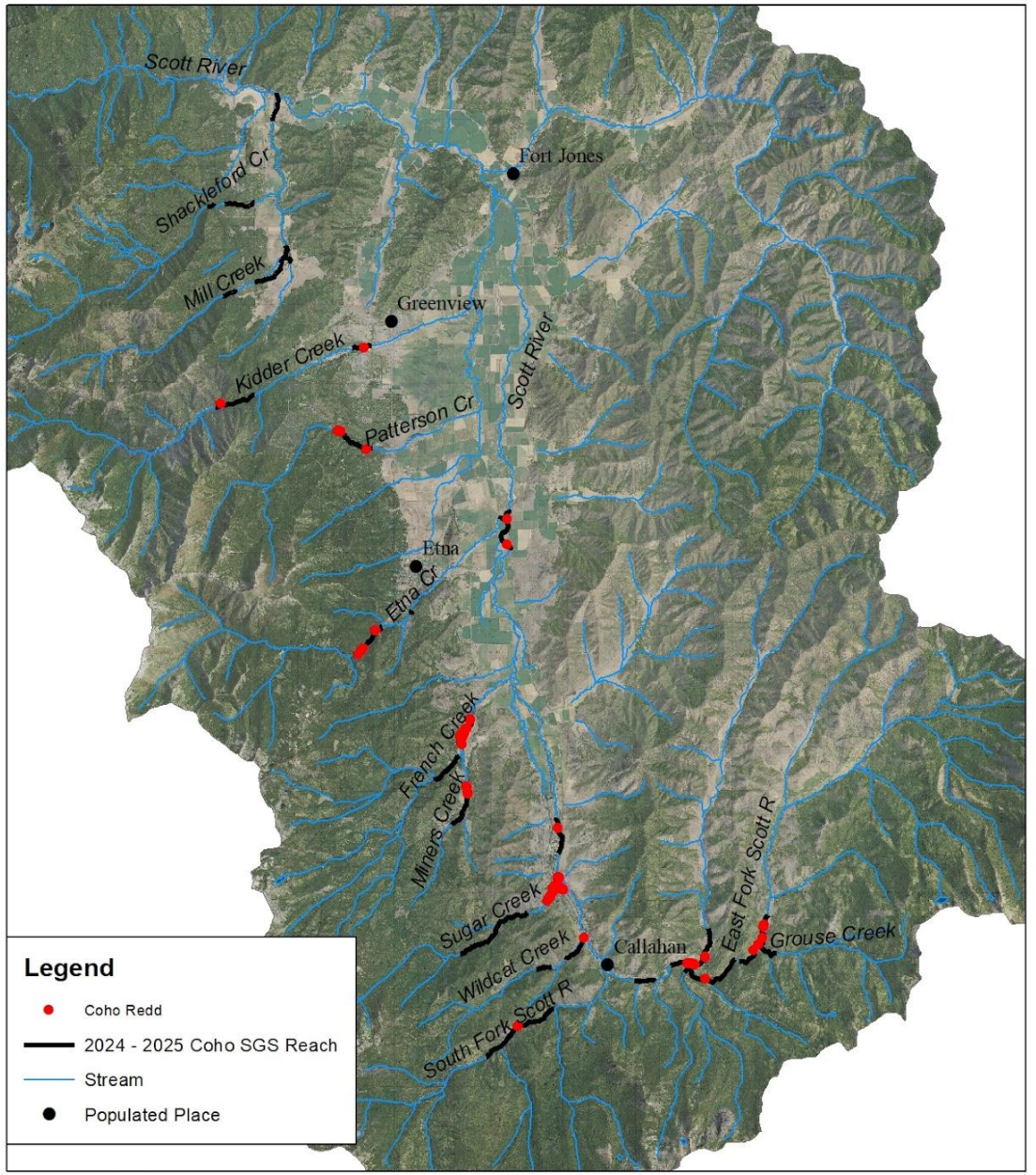
2024 – 2025 Coho Spawning Ground Surveys

Observed less spawning activity
Large runoff event on November 22, 2024
Wet December

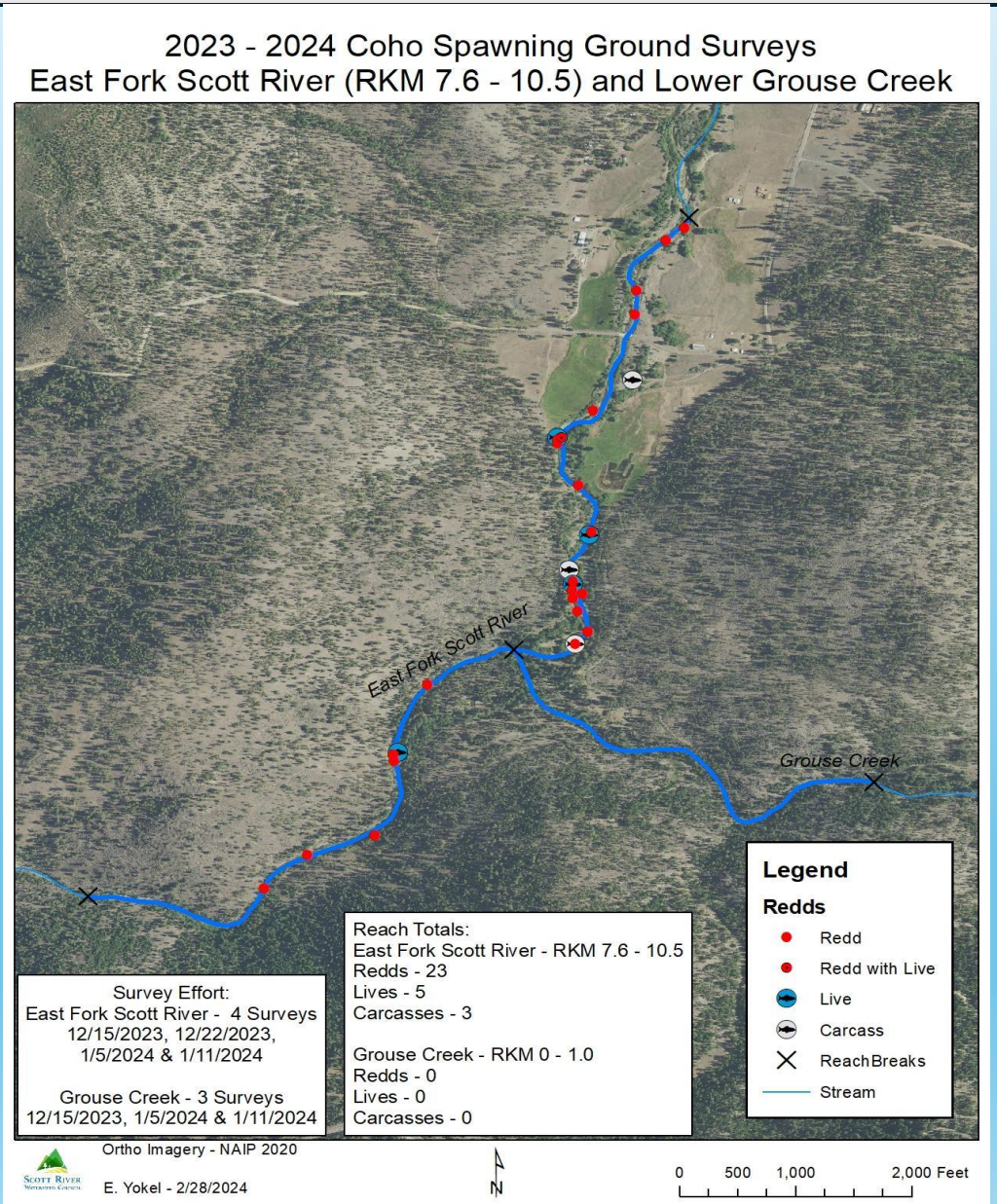
Observed adult coho in Patterson Creek

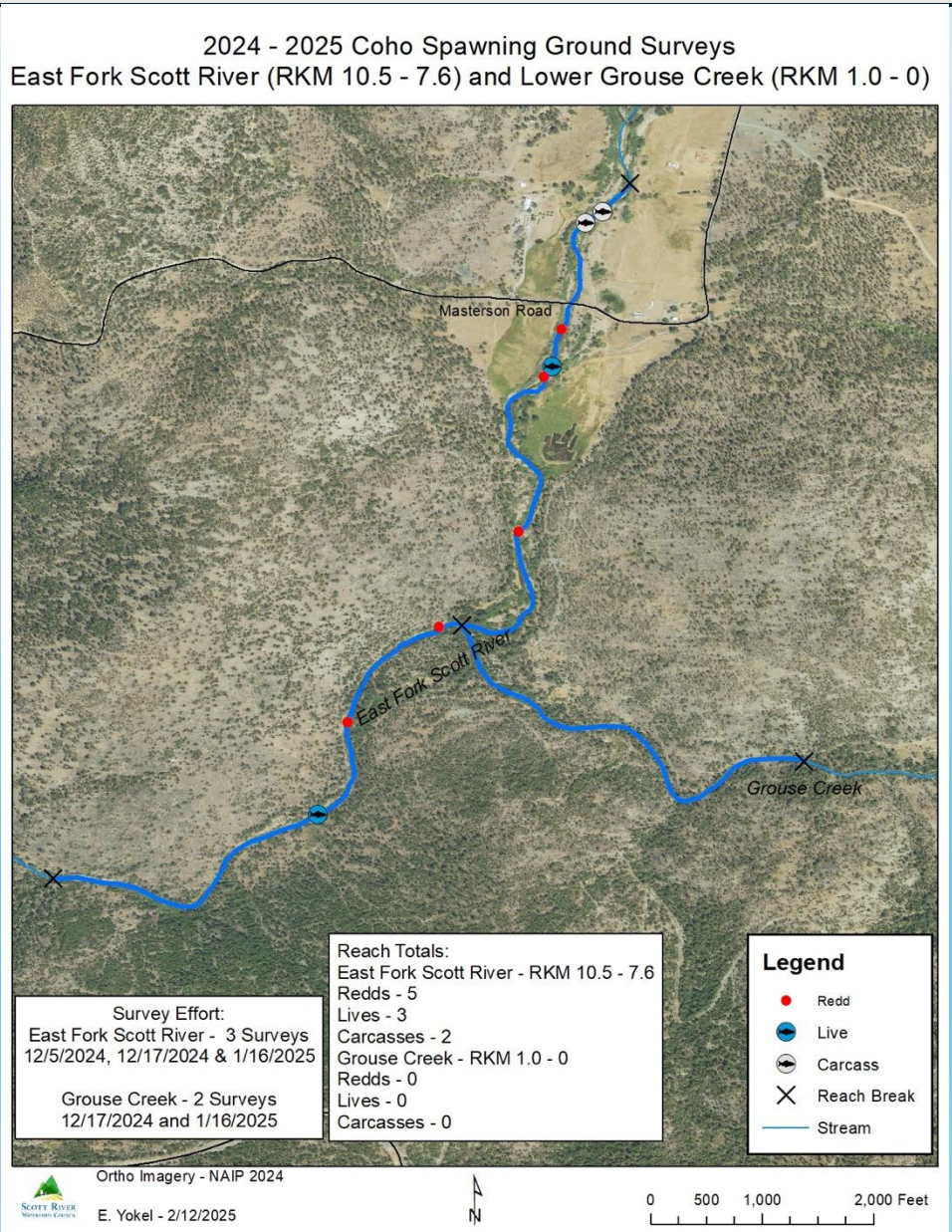


2024 - 2025 Scott River Coho Spawning Ground Survey Reaches
Observed Coho Salmon Redds

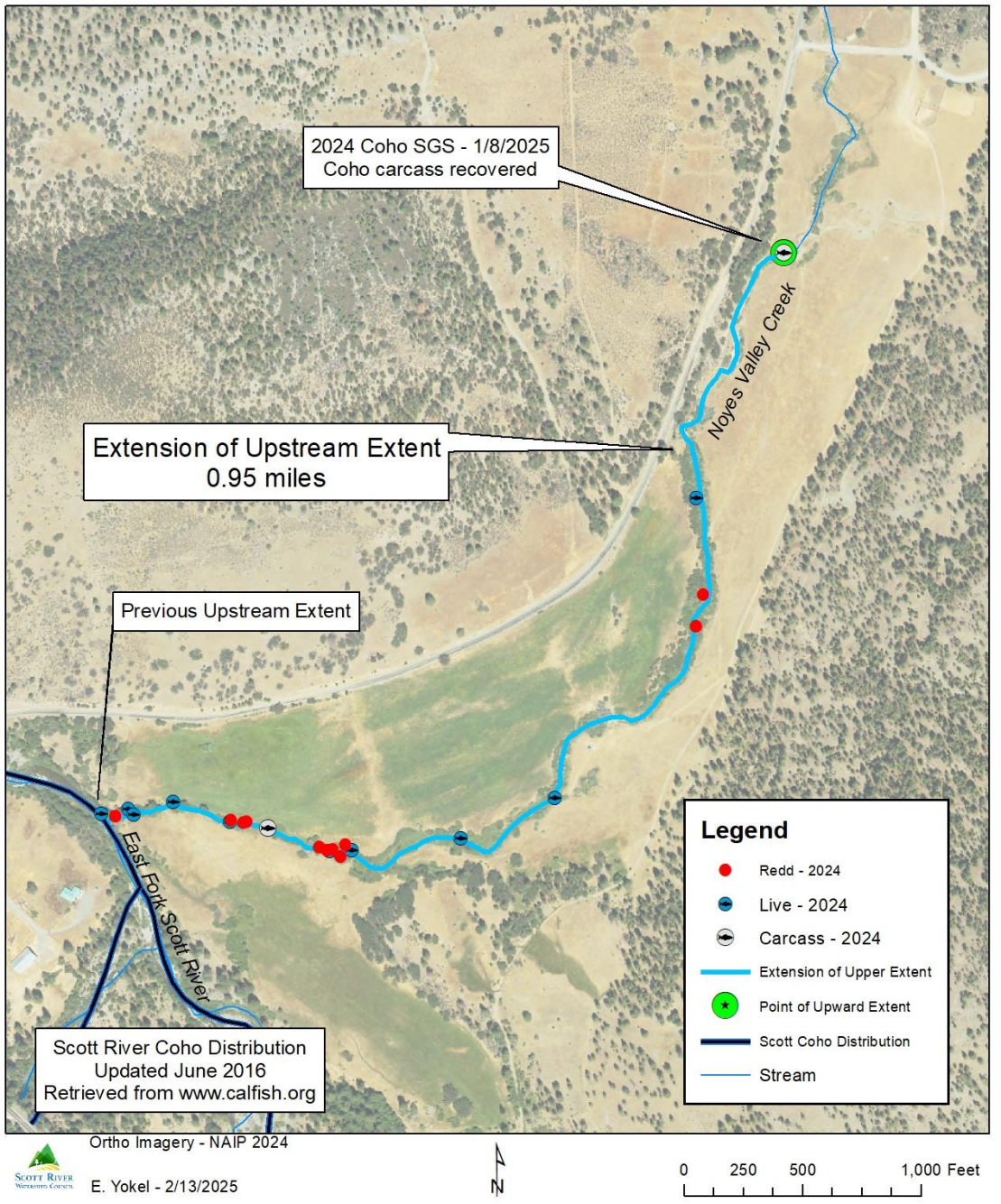


Significantly less spawning was observed in 2024-2025 in many reaches compared to the previous year.

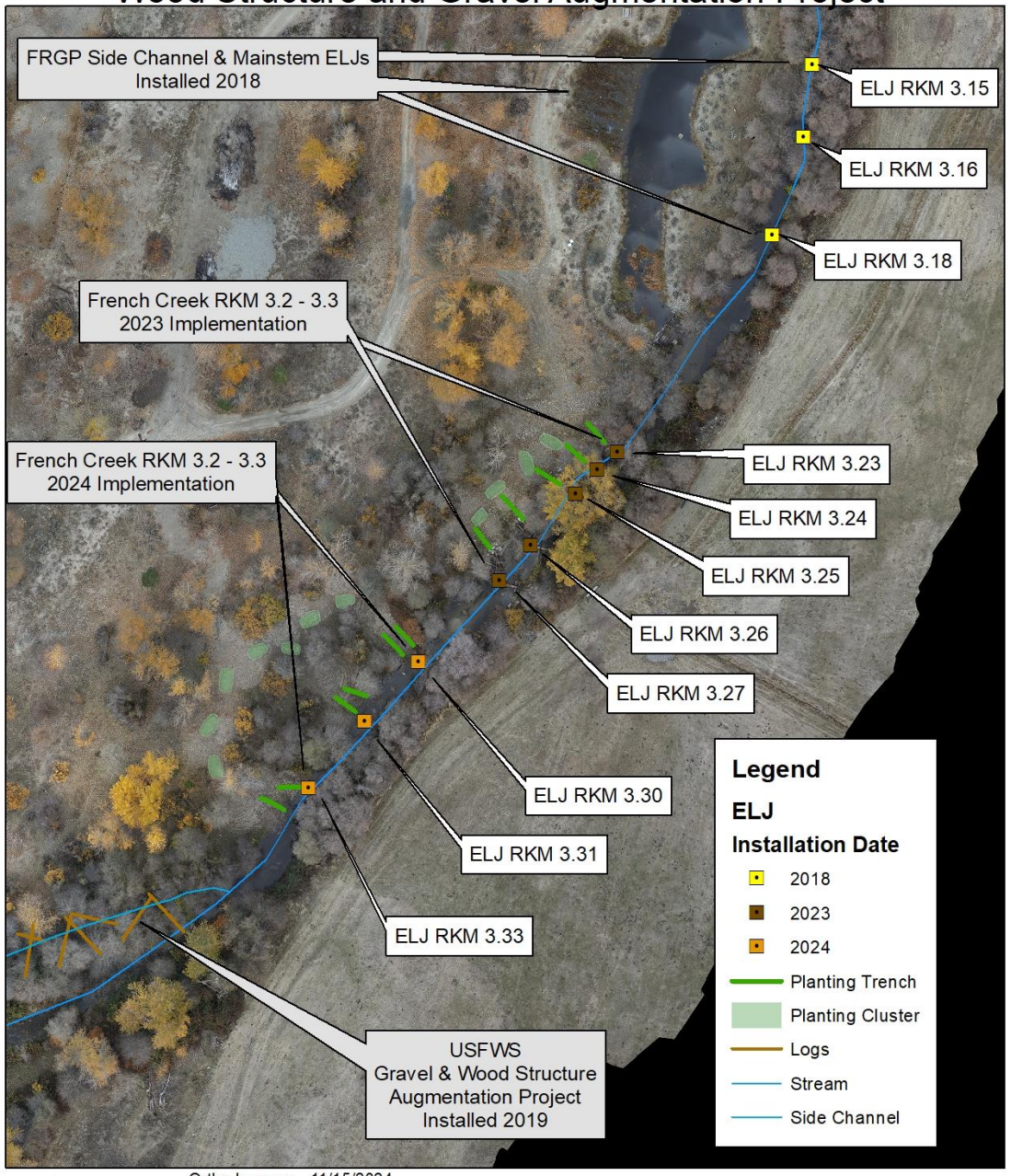




Increased the upper extent of documented coho salmon in Noyes Valley Creek



French Creek RKM 3.2 - 3.3
Wood Structure and Gravel Augmentation Project



Ortho Imagery - 11/15/2024
Cascade Stream Solutions
E. Yokel - 12/6/2024

N

0 40 80 160 Feet

French Creek Wood and Gravel Augmentation Projects

The Nature Conservancy
Protecting nature. Preserving life.

Sugar Creek Coho Salmon Refugia Project

U.S. FISH & WILDLIFE SERVICE

NORTH COAST RESOURCE PARTNERSHIP

U.S. DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

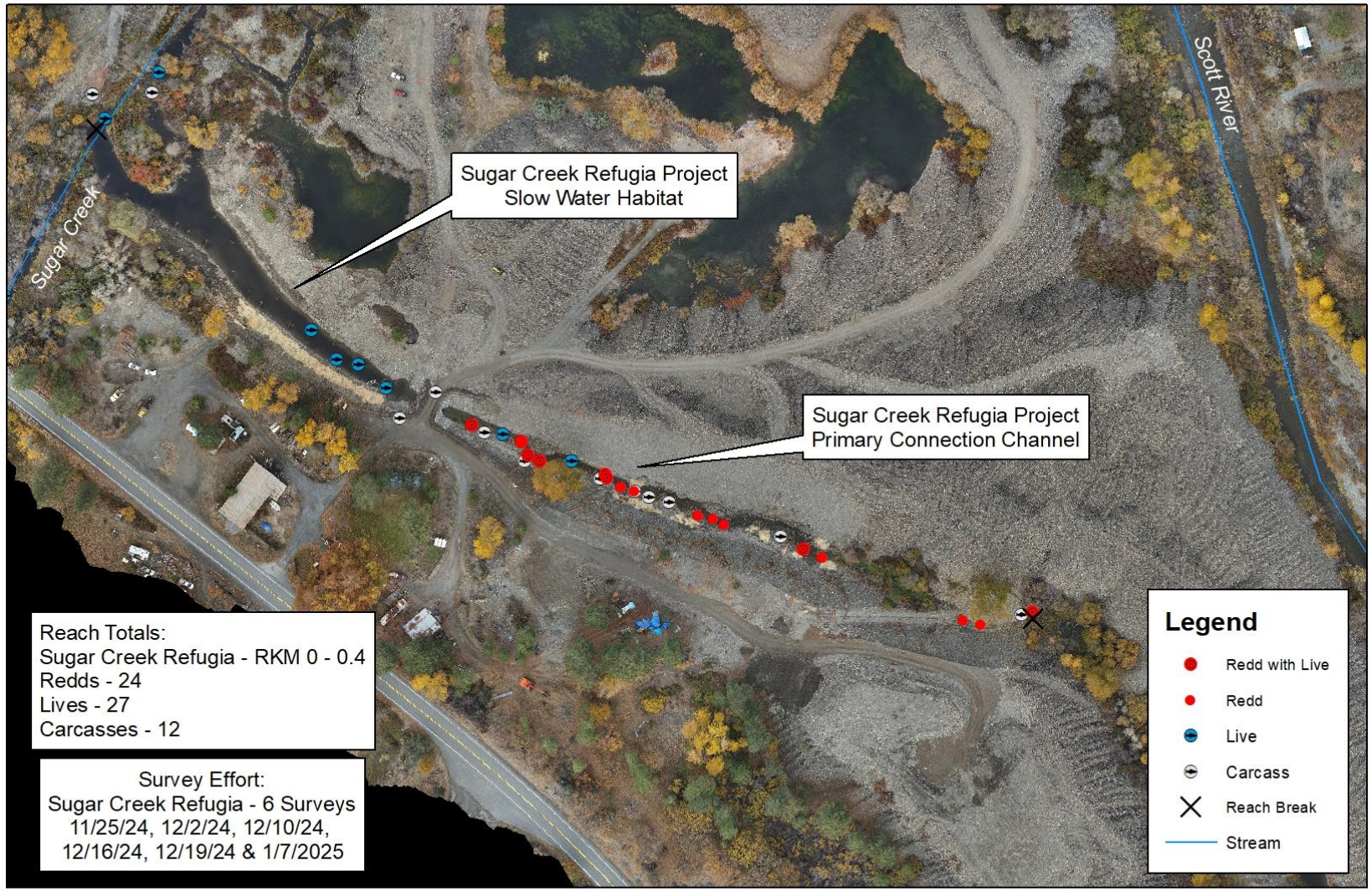
National Fish and Wildlife Foundation

NORTH RIVERS CONSTRUCTION

Stillwater Sciences

High Density of Spawning Documented in Sugar Refugia Project Primary Connection Channel

2024 - 2025 Coho Spawning Ground Surveys
Sugar Creek Refugia Project



Ortho Imagery - 11/12/2024
Cascade Stream Solutions

E. Yokel - 2/5/2025

N

0 75 150 300 Feet

Scott River Watershed Council

North Coast Resource Partnership

National Fish and Wildlife Foundation

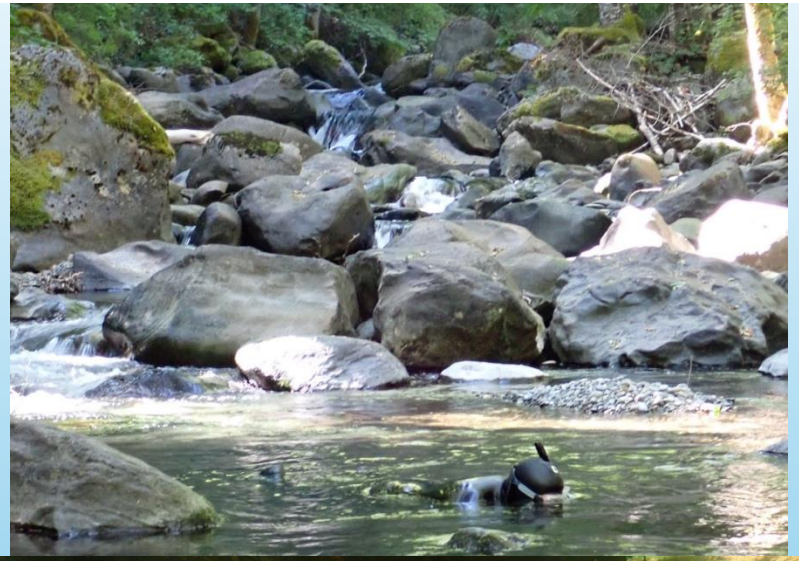
U.S. Department of the Interior Bureau of Reclamation

U.S. Fish & Wildlife Service

Photo Credit: Freshwaters illustrated / David Herasimtschuk

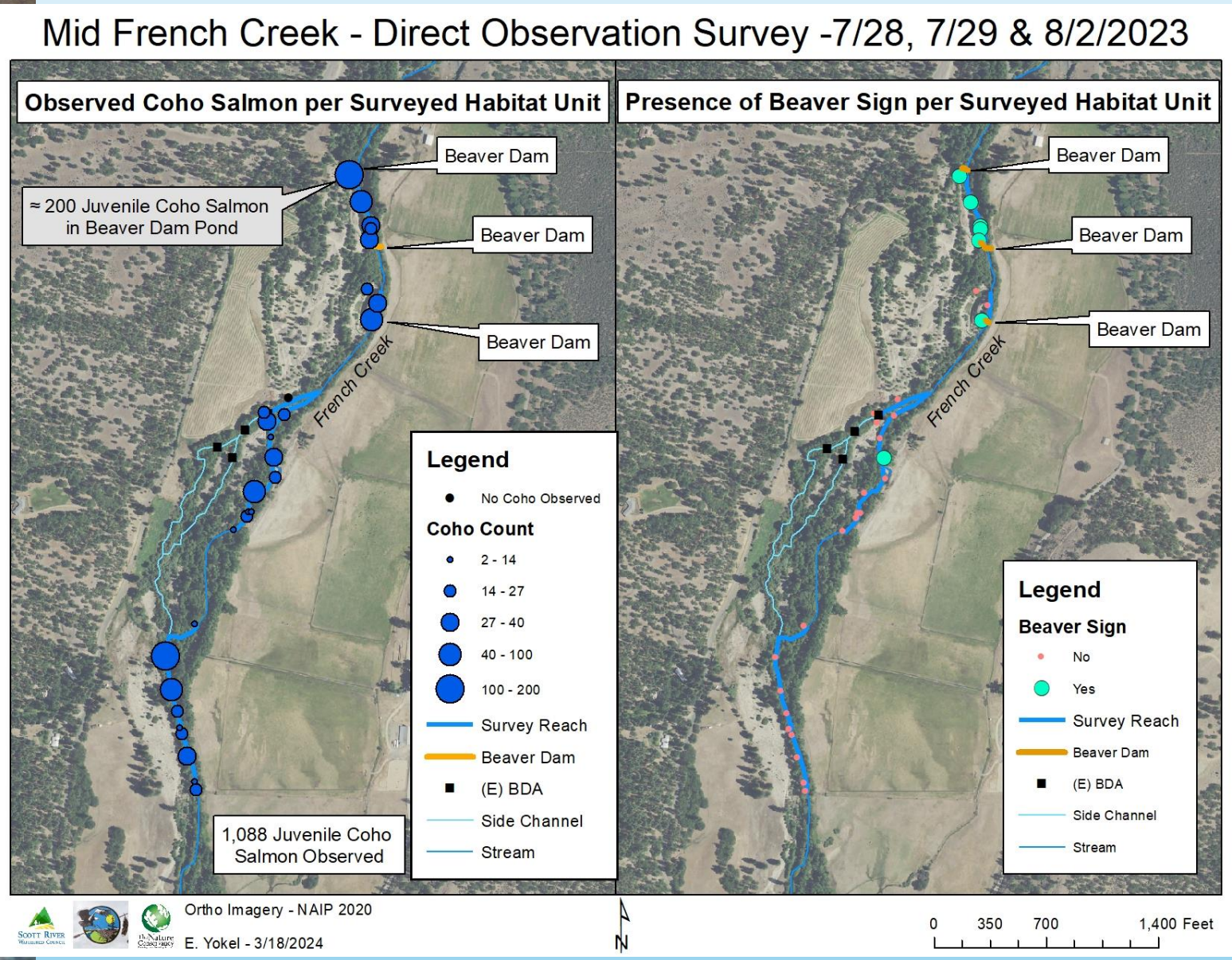
Direct Observation Surveys

Canyon Creek



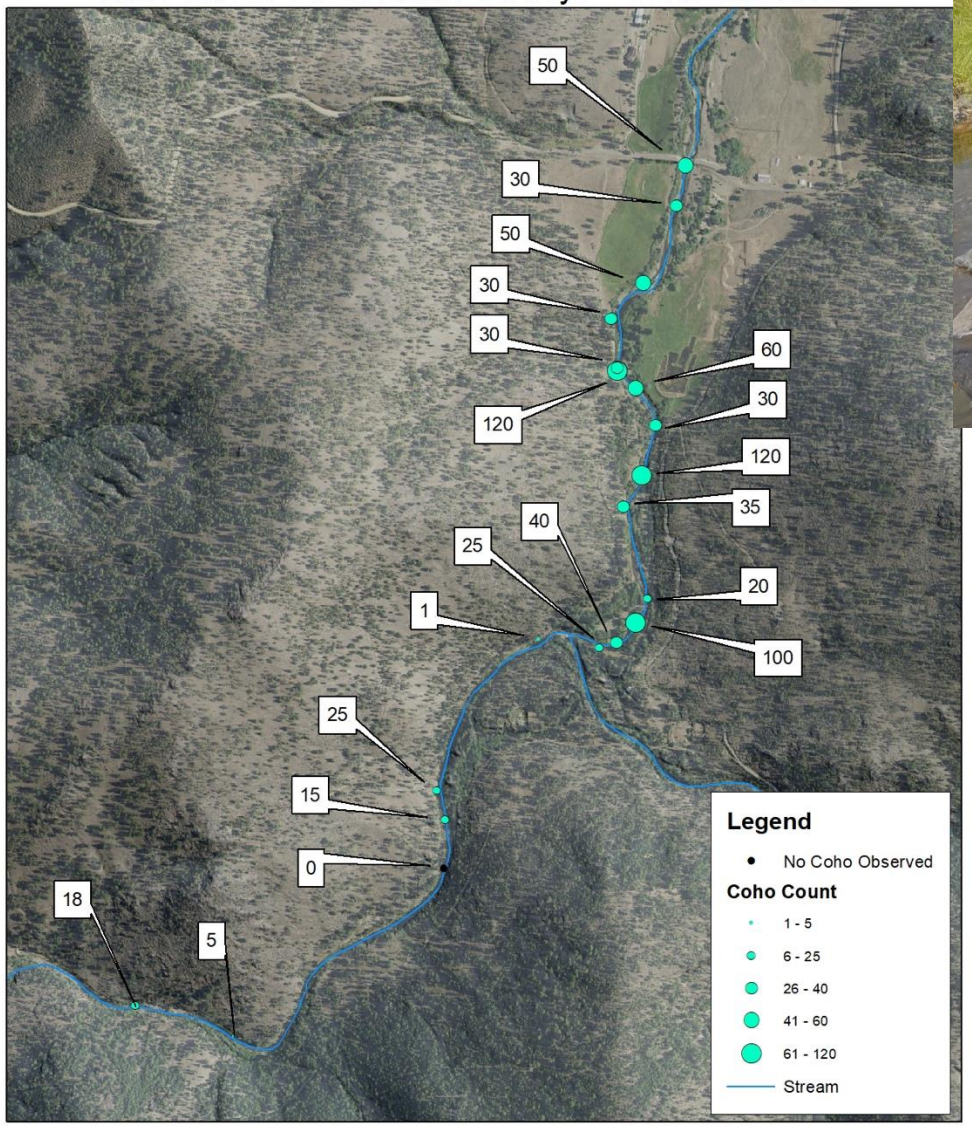
Identify juvenile salmon in the rearing habitat

Identify beaver sign during direct observation surveys



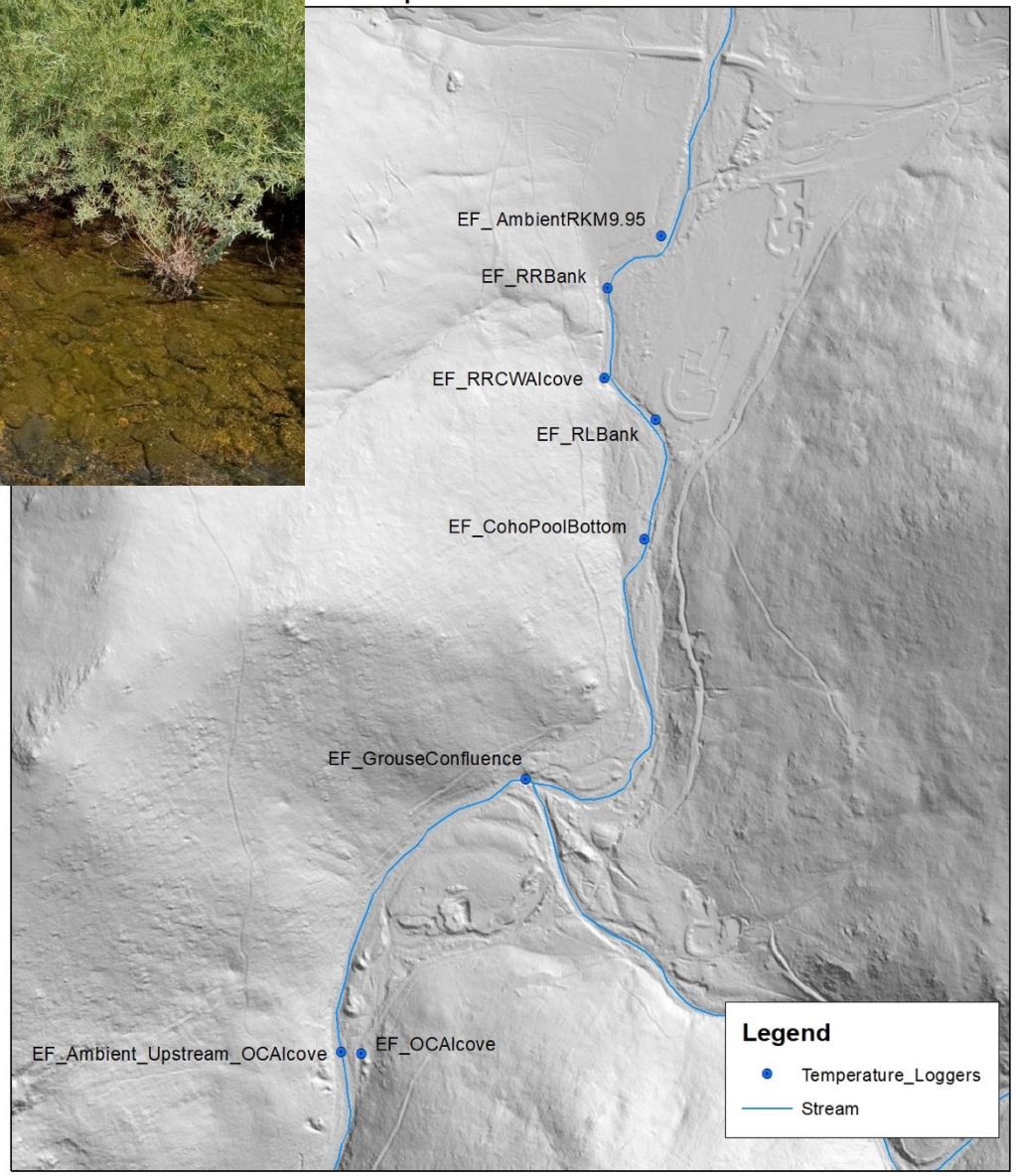
East Fork Scott River at Grouse Creek Restoration Planning and Design Project

East Fork Scott River at Grouse Creek
2024 Direct Observation Surveys - Coho Observed



Utilize direct observation surveys to direct water quality monitoring

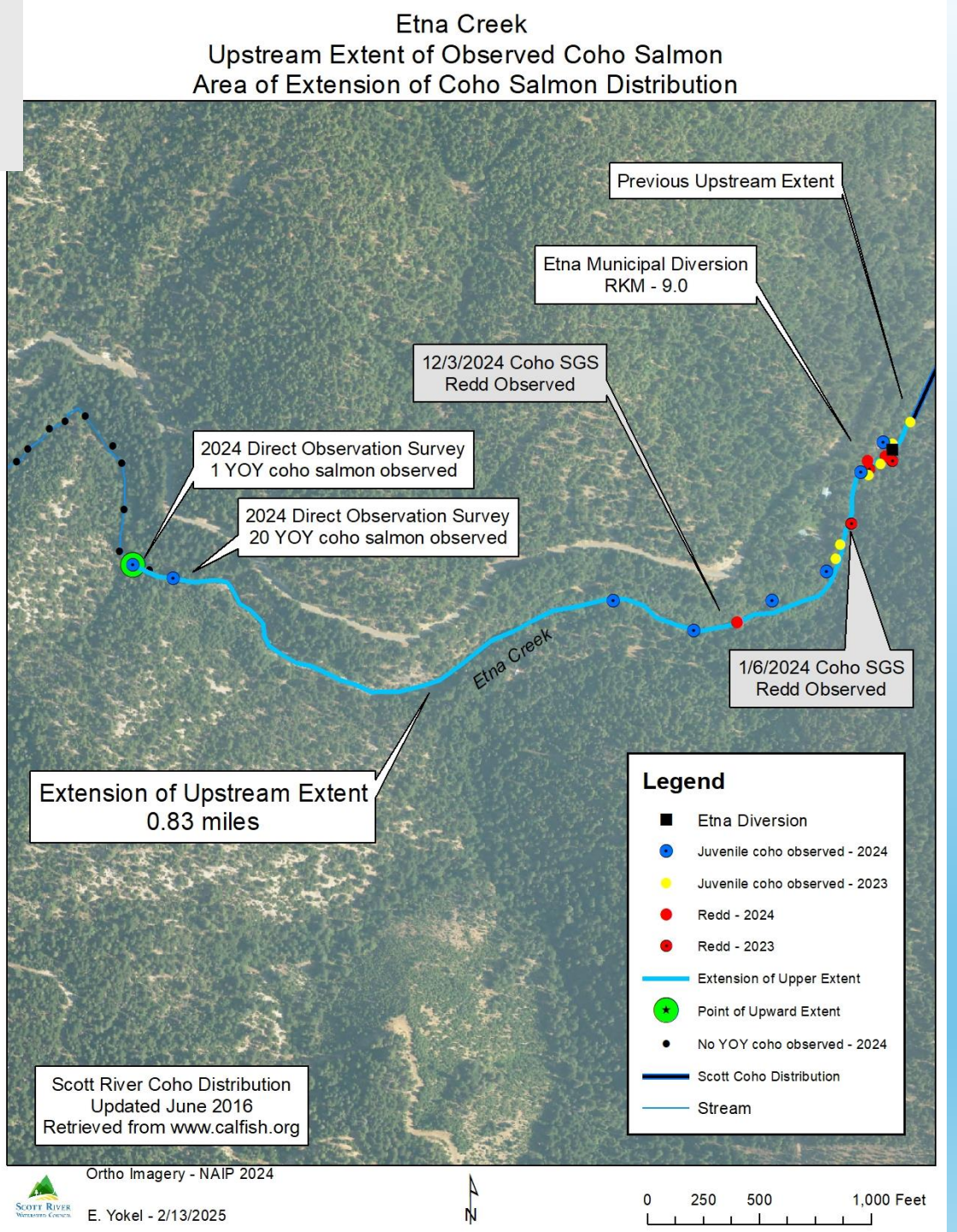
ork Scott River at Grouse Creek
Temperature Stations



Extension of Upper Extent of Coho Salmon on Etna Creek

Observe juvenile rearing upstream of adult spawning

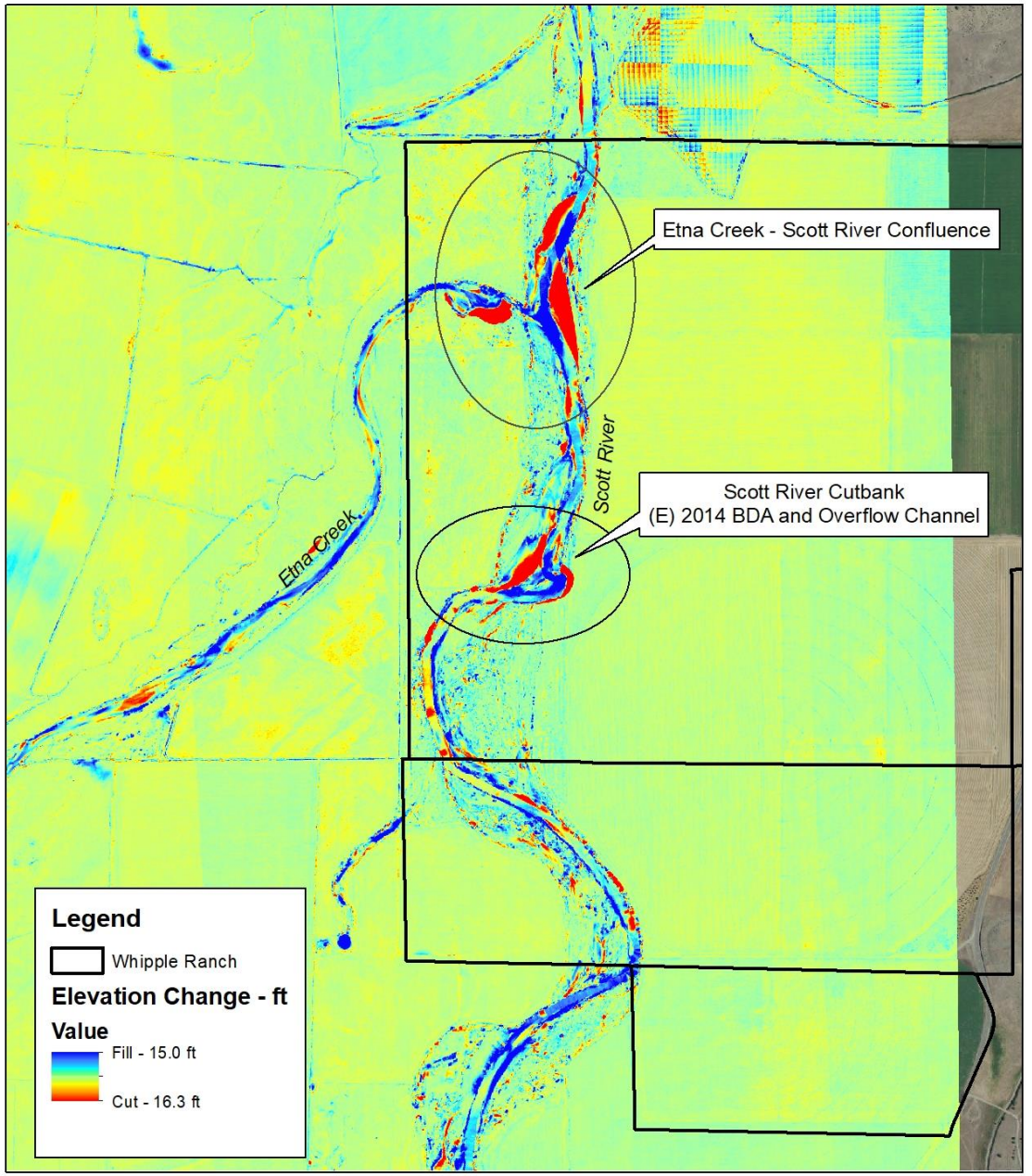
Insert illustrative photo of Upper Etna Creek here



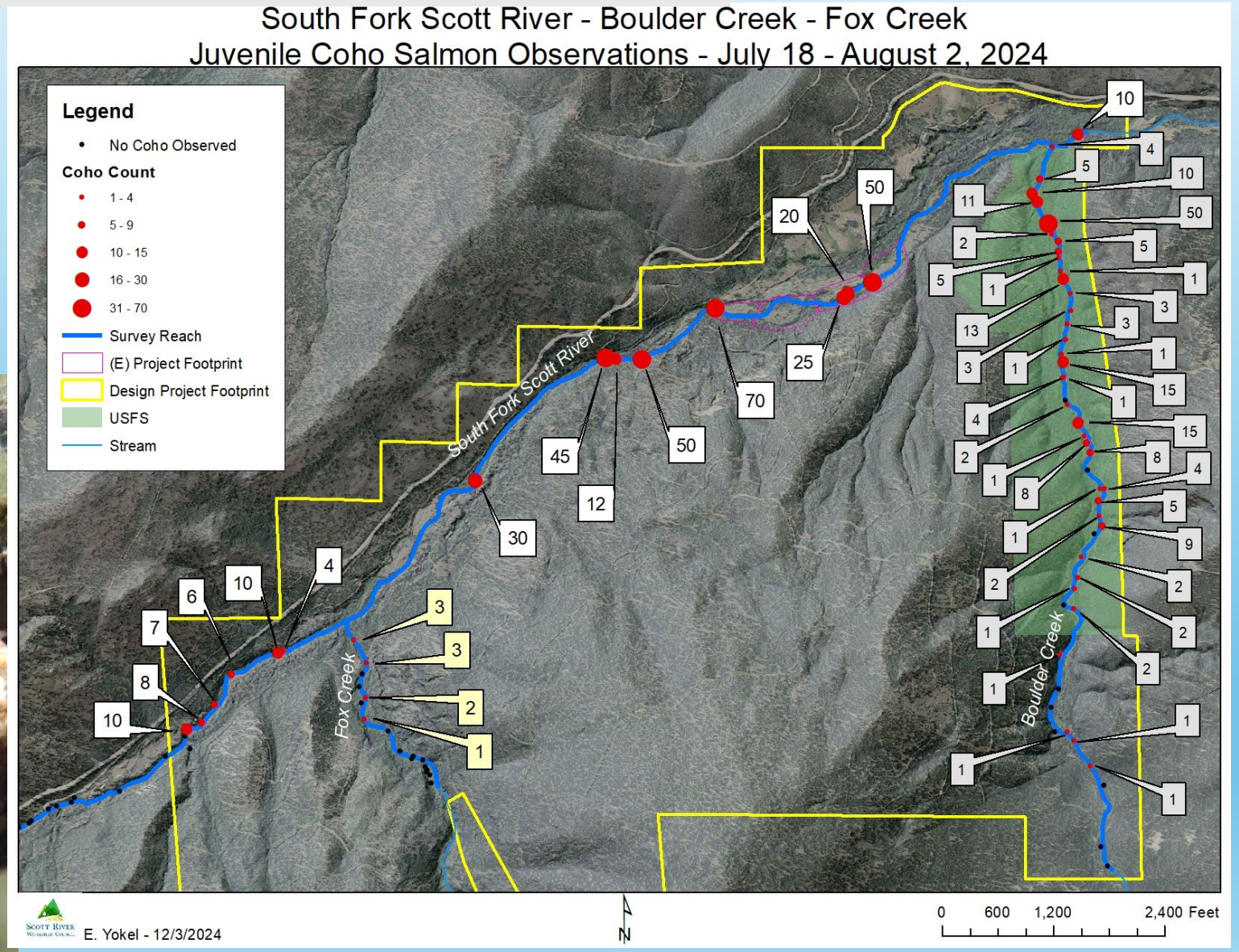
Whipple Family Ranch Restoration Design Project

Scott River at Etna Creek

Scott River at Etna Creek – Change in Elevation

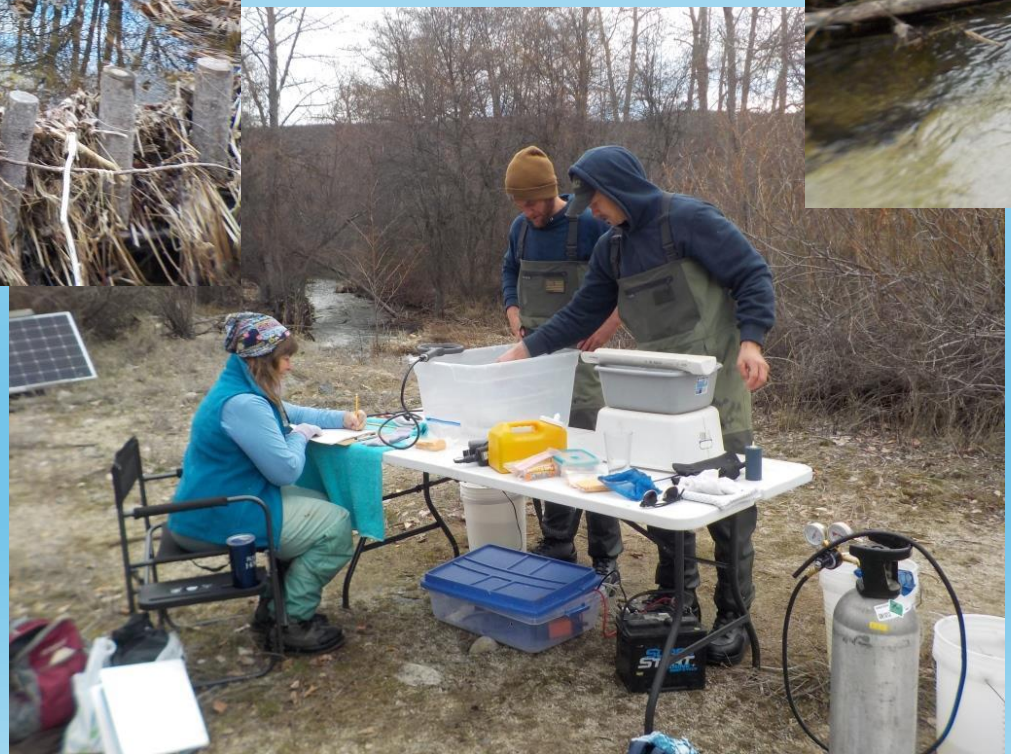


Extension of Upper Extent of Coho Salmon on Boulder Creek – South Fork Scott River



Mark and recapture sampling with PIT tags

Document:
Condition
Growth
Movement
Survival



Center for Watershed Sciences
UCDAVIS

Quartz Valley Indian Reservation

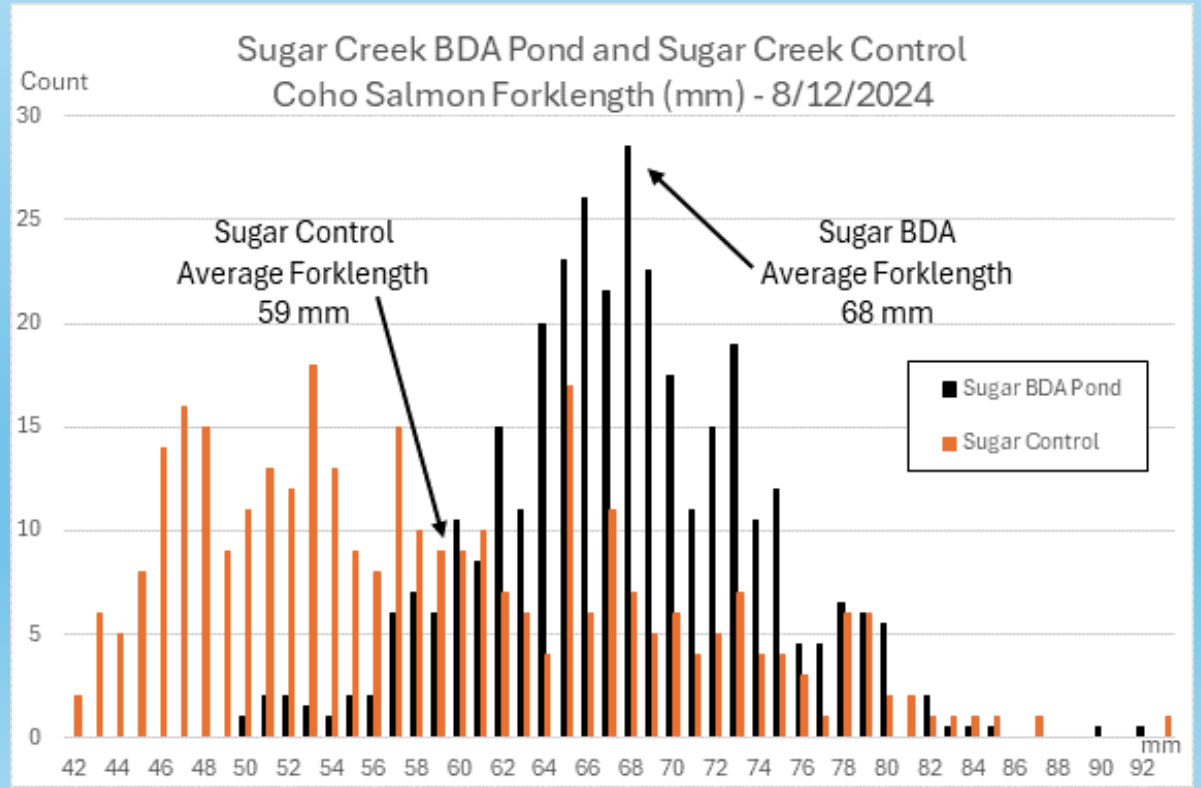
CALIFORNIA DEPARTMENT OF FISH & WILDLIFE

August 2024 - Average forklength varies by sampled habitat

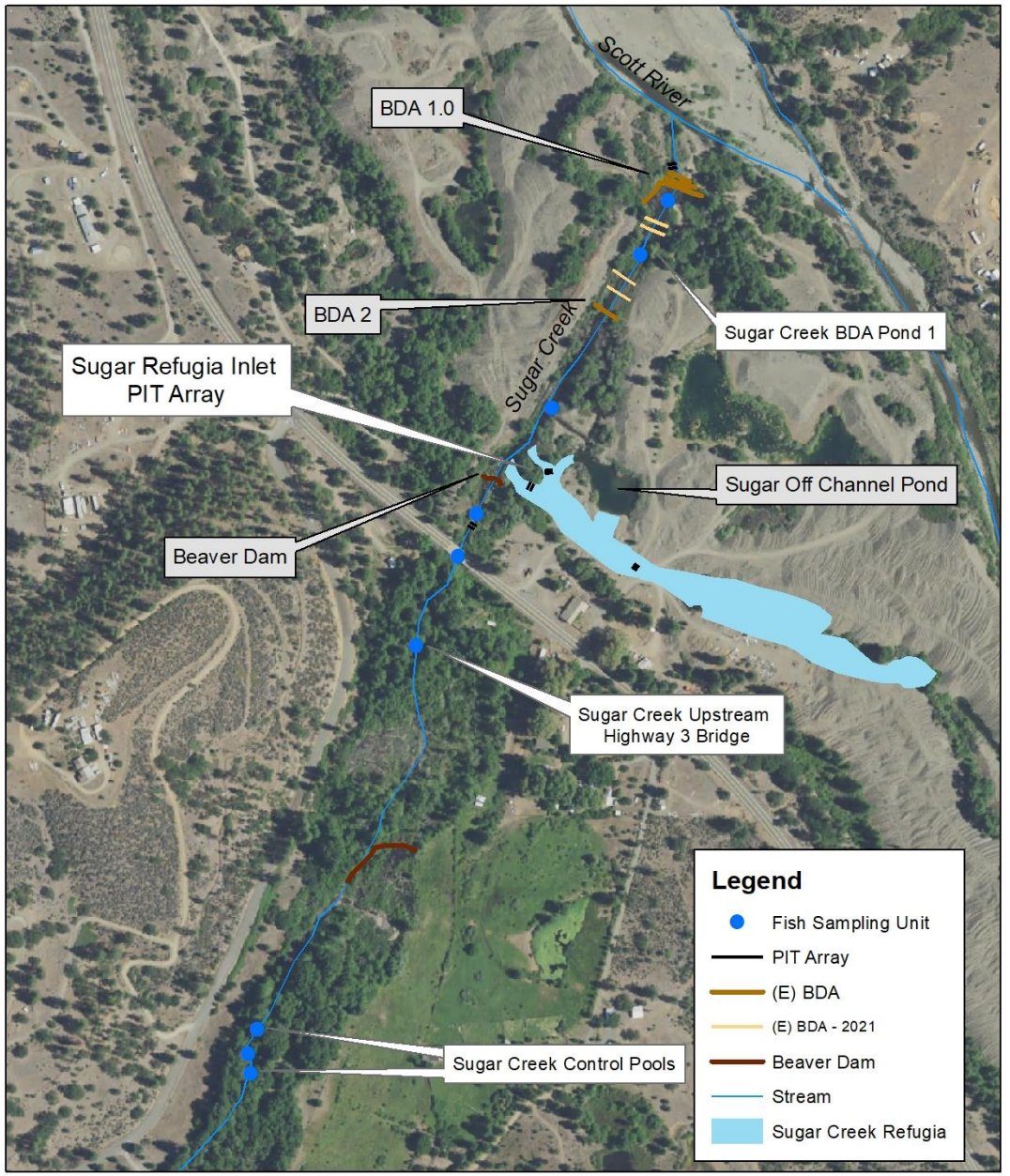
Habitat	Sugar BDA Pond	Sugar Creek - Beaver Haven	Sugar Creek Control
Date	8/12/2024	8/14/2024	8/12/224
Average (mm)	68	55	59
Stand. Dev. (mm)	6.2	8.0	10.5
Minimum (mm)	50	41	42
Maximum (mm)	92	84	93
Count	667	275	331

Habitat	French Creek Control Pools	French Side Channel BDAs
Date	8/13/2024	8/13/2024
Average (mm)	61	56
Stand. Dev. (mm)	10.2	9.5
Minimum (mm)	40	37
Maximum (mm)	88	89
Count	906	435

Habitat	East Fork upstream Grouse Creek	South Fork upstream Boulder Creek
Date	8/15/2024	8/16/2024
Average (mm)	60	67
Stand. Dev. (mm)	4.9	5.6
Minimum (mm)	49	42
Maximum (mm)	70	85
Count	74	234



Sugar Creek Fall 2024 Fish Sampling Units



Orthoimagery - NAIP 2020

Scott River Watershed Council

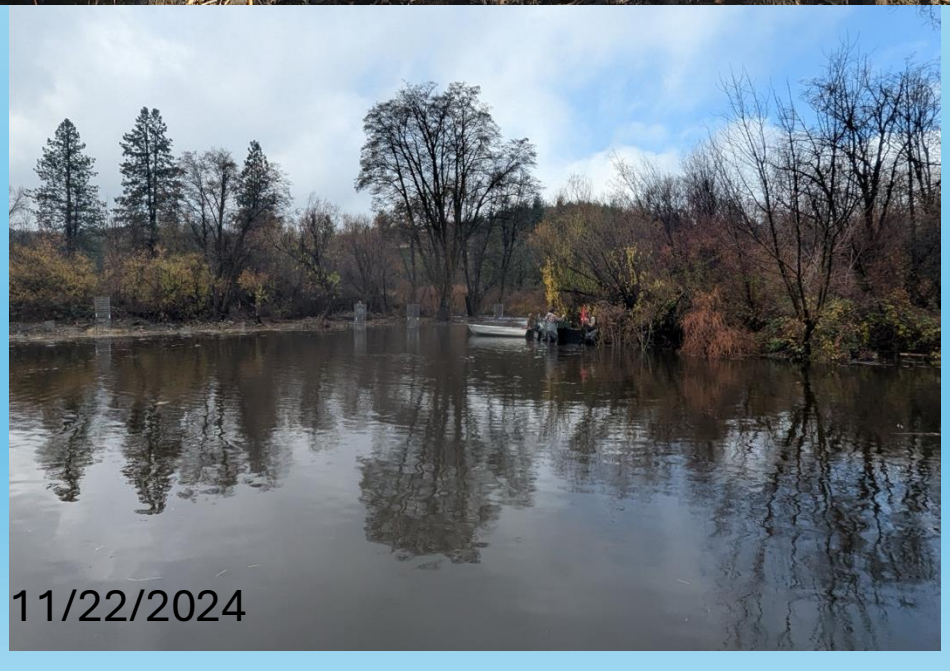
E. Yokel - 2/18/2025

N

0 175 350 700 Feet

Connected Sugar Refugia to Sugar Creek on 10/25/2024

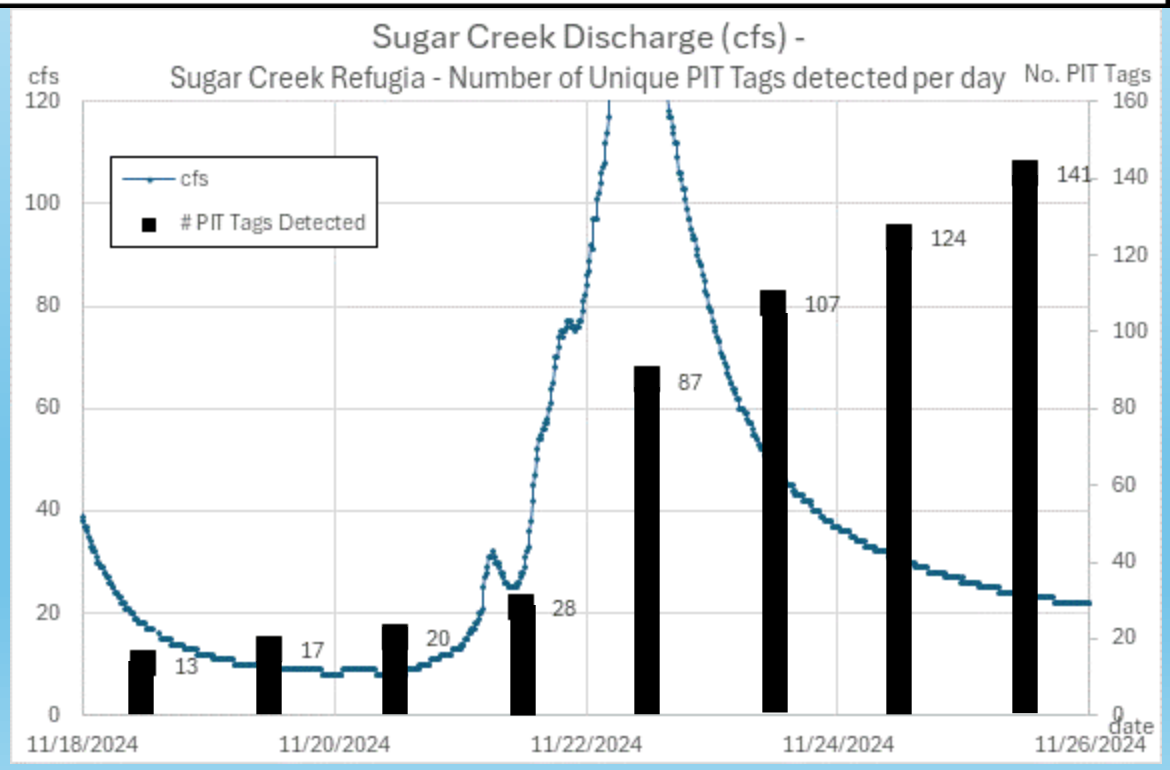
First detection of PIT tagged fish entering Sugar Refugia on 10/31/2024



Sugar Creek Refugia Inlet PIT Array

Unique PIT tag detections - 10/31/2024 - 12/6/2024

Location	Number of PIT tagged Fish	Number Detected
Sugar Creek	759	226
BDA 1 Pond	465	166
Upstream Highway 3 Bridge	15	2
Sugar Control Pools	141	6



2024 – PIT tagged adult coho salmon returns

Fifteen (15) PIT tagged adult coho salmon were detected on PIT arrays in the Scott River

Nine (9) PIT tagged adults returned to Sugar Creek

Six (6) PIT tagged adults returned to French Creek

Two (2) adult returns to Sugar Creek were tagged in French Creek

One (1) adult return to French Creek was tagged in Sugar Creek

Detected potential 2 year old return

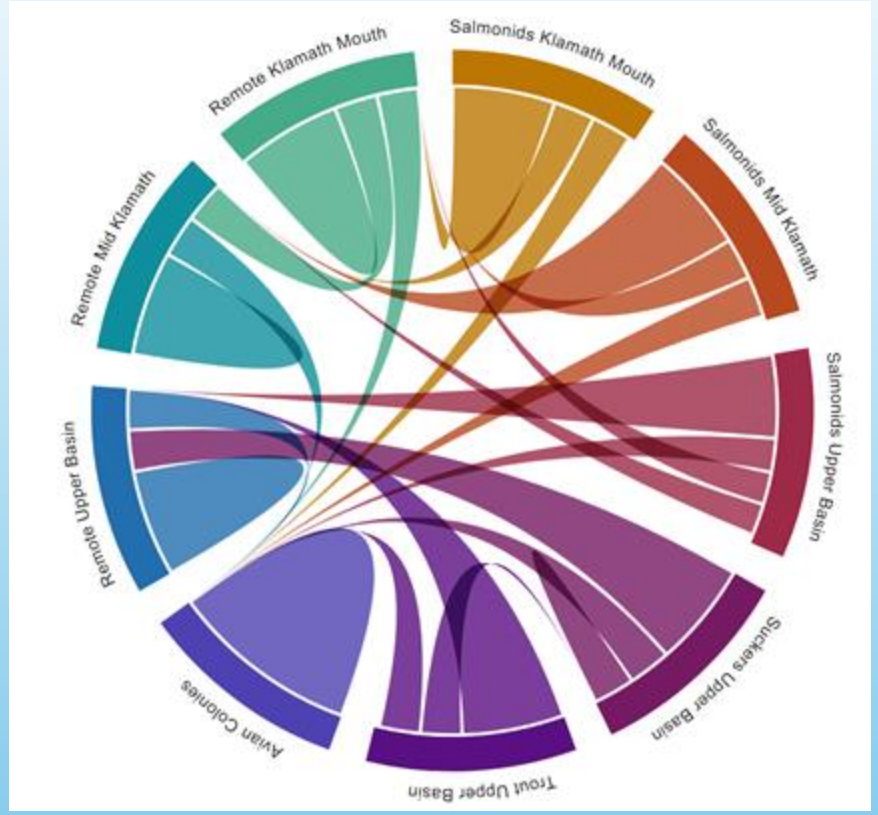
Detection Information				Tag Origin			Additional Detections
Stream	Array	Date	PIT Code	Tag date	Location	FL	
Sugar Creek	1A	11/18/2024	989001039966031	8/1/2022	Sugar - BDA Pond 1 - Alder Hole	72	
Sugar Creek	1A	11/23/2024	989001041194314	9/19/2022	Sugar - BDA Pond 1	75	Sugar Refugia
Sugar Creek	1A	12/16/2024	989001041194828	9/20/2022	Sugar - Jensen Control - Pool 3 (Big Pool)	67	CDFW Weir
Sugar Creek	1A	12/7/2024	989001041195076	9/22/2022	French - Control Pool 3	70	
Sugar Creek	1A	11/24/2024	989001041195189	10/24/2022	French - Control Pool 4	70	
Sugar Creek	1A	11/26/2024	989001044295191	10/28/2022	Sugar - BDA Pond 1 - Alder Hole	68	
Sugar Creek	1A	11/28/2024	989001044295694	2/1/2023	Sugar - BDA 1 - Alder Hole	78	Sugar Refugia
Sugar Creek	1A	11/23/2024	989001044295700	2/2/2023	Sugar - Below Natural Beaver Dam	79	Sugar Refugia
Sugar Creek	1A	11/19/2024	989001045427633	11/7/2023	Sugar - Below Natural Beaver Dam	91	CDFW Weir & Sugar Refugia
French Creek	F2	11/22/2024	989001039966514	8/2/2022	French - Beaver Dam Pond	94	
French Creek	F1	11/22/2024	989001039966522	8/2/2022	French - Beaver Dam Pond	93	
French Creek	F2	11/21/2024	989001041194417	8/10/2022	French - Beaver Dam Pond	102	
French Creek	F1	11/22/2024	989001041194464	8/10/2022	French - Beaver Dam Pond	68	
French Creek	F1	12/14/2024	989001041195189	10/24/2022	French - Control Pool 4	70	
French Creek	F1	11/22/2024	989001044295670	2/2/2023	Sugar - OCP	93	

Klamath Basin Fisheries Collaborative

Hosted by
Pacific States Marine Fisheries Commission

The result of an organic coalescence of fisheries data collectors and users in the Klamath Basin, integrating data across the entire basin as dams are removed.

Identified in the Integrated Fisheries Restoration and Monitoring Plan and Supported by the USFWS BIL



KLAMATH BASIN INTEGRATED FISHERIES RESTORATION AND MONITORING
ESSA

Questions ?

erich@scottriver.org